

AMENDMENTS TO THE DRAWINGS

Drawing Fig. 4 has been amended to correct a typographical error in the label included in the block designated 101. The label now reads "Switching Control Circuit".

REMARKS

Claim 1 has been amended, claims 2-15 have been canceled without prejudice and claims 16-24 have been added. Claims 1 and 16-24 are presently pending.

The specification and drawings have been amended to correct typographical errors uncovered in preparation of this response.

In view of such amendments and the following remarks, reconsideration and allowance of the claims, as presently presented, are respectfully requested.

EXAMINER'S ACTION

Claims 1-2 and 5 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Nos. 6,208,531 ("Vinciarelli *et al.*"). In addition, claims 3-4 and 6-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vinciarelli *et al.* in view of U.S. Patent No. 5,434,767 ("Batarseh *et al.*"). Claim 1, as amended, and new claims 16-24, clearly are patentable over Vinciarelli *et al.*, alone or in combination with Bataresh *et al.*

Claim 1, as amended, is directed to an isolated type switching power supply apparatus including, in relevant part, a transformer comprising a core having primary and second sides and a transmitting means for transmitting an output on the secondary side of the transformer, where the output has been modulated by a modulating means, through the core from the secondary side to the primary side of the transformer. Advantageously, "[s]ince the output signal [on the secondary side] is modulated, the signal is not apt to be interrupted by the switching signals having large energy that go from the primary side to the secondary side of the transformer." (See spec. at page 7, lines 13-21; page 17, lines 7-17). Consequently, the voltage on the secondary side

correctly appears on the primary side and can be used to control operation of the switching power supply apparatus to maintain the output voltage constant.

In contrast to the claimed invention, Vinciarelli *et al.*, which concerns power conversion, does not teach or suggest using a transformer for performing power conversion and, furthermore, to transmit an output at the secondary side of the core of the transformer, where the output has been modulated by a modulating means, through the core from the secondary side to the primary side of the transformer, as required by claim 1. In addition, Batarseh *et al.*, which concerns switching operations in a power conversion circuit, fails to cure the deficiencies of Vinciarelli *et al.*

Accordingly, claim 1 is patentable over Vinciarelli *et al.*, alone or in combination with Batarseh *et al.*

New independent claim 17, like claim 1, is directed to an isolated type switching power supply apparatus including a modulating means for modulating an output on the secondary side of the transformer. In addition, claim 17 requires a transmitting means including a photo-coupler through which a modulated output from the secondary side of the transformer is transmitted to the primary side of the transformer. Accordingly, claim 17 is patentable because Vinciarelli *et al.*, alone or in combination with Batarseh *et al.*, does not disclose or suggest a power supply apparatus where the signal on the secondary side of a transformer is modulated before a photo-coupler transmits such modulated signal to the primary side of the transformer.

New independent claim 19, also directed to an isolated type switching power supply apparatus, requires a modulating means for generating a pulse width modulated driving signal for a rectifying FET at an output, where the output of the modulating

means is transmitted through a core of a transformer from the secondary side to the primary side of the transformer. Nowhere do the cited references disclose or suggest transmitting a pulse width modulated signal for driving a rectifying FET through a core of a transformer from the secondary side to the primary side of the transformer, as required by claim 19.

In addition, new independent claim 21 is directed to an isolated type switching power supply apparatus requiring, in relevant part, a pulse amplitude modulating means for modulating an output of a second transformer at a same frequency as a switching frequency of a switching means for switching electric current through a first transformer, where the modulation is in accordance with an output of the power supply apparatus. Nowhere do the cited references disclose or suggest performing pulse width modulation using a second transformer and at the same frequency of the switching frequency of the switching means, as required by claim 21.

New independent claim 23 is directed to an isolated type switching power supply apparatus requiring, in relevant part, a tertiary winding at a primary side of a transformer, a rectifying means for rectifying an output of the tertiary winding and a switching means controlling circuit for controlling the operation of a switching means for switching electric current through the transformer, where the controlling is in accordance with the output of the rectifying means. Nowhere do the cited references disclose or suggest controlling the switching means using an output of the tertiary winding, and furthermore, compensating the apparatus by load regulation and line regulation, as required by claim 23.

Accordingly, claims 17, 19, 21 and 23 also are patentable over the cited

references. In addition, claim 16 which depends from claim 1, claim 18 which depends from claim 17, claim 20 which depends from claim 19, claim 22 which depends from claim 21 and claim 24 which depends from claim 23 are also patentable over the cited references for the same reasons as set forth above for claims 1, 17, 19, 21 and 23, respectively, and because of the further restrictions they add.

Withdrawal of the Section 102 and 103 rejections is, therefore, respectfully requested.

CONCLUSION

For the foregoing reasons, it is believed that all of the claims, as presently presented, are patentable.

The Examiner is invited to telephone the undersigned if it is believed that further amendment and/or discussion would help to advance the prosecution of the present application.

Reconsideration and allowance of claims 1 and 16-24 are, therefore, respectfully requested.

Respectfully submitted,



Davy E. Zoneraich
Registration Number 37,267

NORRIS, McLAUGHLIN & MARCUS
P.O. Box 1018
Somerville, New Jersey 08876-1018
Phone: (908) 722-0700
Fax: (908) 722-0755
E-Mail: ipdept@nmmlaw.com

Attorney Docket No: 101188-40(55) US
Encl. (New drawing FIG. 4.)